Journal of Education and Practice
ISSN 2222-1735 (Paper) ISSN 2222-288X (Online)
Vol.6, No.19, 2015

Students towards One-to-Five Peer Learning: A New Approach for Enhancing Education Quality in Wolaita Sodo University, Ethiopia

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Abstract
Peer learning plays an important role in changing teaching learning environment for betterment of learners and their academic achievements. Due to the limitations of conventional approaches such as lecturing, which give too much chance for teacher to talk, peer learning is among the most well researched of all teaching strategies for maximizing their own learning and the academic accomplishments for their classmates. The objective of this study was to examine the attitude students and investigate the determinants that influence students' attitude toward peer learning. To conduct the study, descriptive survey design was employed. Qualitative approach using observation checklists and interviews for data gathering were employed for non-respondent samples. Upon stratifying all faculties into three categories of educational streams, a total of 81 second year students were randomly selected after applying Probability Proportionate to Sample Size (PPS). Quantitative data were analyzed using percentage, frequency and inferential statistics like *Chi-square* (χ^2) test to compare the degree of determinants influencing the attitude of students. the results revealed that there was significant relationship between some of the variables under the determinant factor and one-to-five peer learning and almost all of the participants of the study have perceived one-to-five peer learning positively though the response varies between students. Finally, recommendations were forwarded based on the major findings so as to minimize problems encountered and maximize the implementation of one-to-five peer learning throughout the departments.

Key words: *Peer learning, Quality education, Active learning, one-to-five peer group*

1. Introduction

Peer learning is a pedagogical practice that has attracted much attention over the last three decades because of a large body of research that indicates students gain both academically and socially when they have opportunities to interact with others to accomplish shared goals (Johnson & Johnson, 2002; Lou *et al*., 1996; Slavin, 1996). Through interaction students learn to interrogate issues, share ideas, clarify differences, and construct new understandings (Mercer & Dawes, 1999; Webb & Mastergeorge, 2003). Each member of a team is answerable not only for knowledge what is taught but also for helping other team members to learn, thus developing an environment of success. It gives chance for students work from beginning to end their assignments until all group members successfully comprehend and complete it. They work in group to gain from each others' efforts; they share a common fate, work in cooperation and feel proud for group success (Kiran *et al.,* 2012).

In so doing, they learn to use language to explain new experiences and realities which, in turn, help them to construct new ways of thinking and feeling (Barnes, 1969; Mercer, 1996). Moreover, when students work cooperatively together, they show increased participation in group discussions, demonstrate a more sophisticated level of discourse, engage in fewer interruptions when others speak, and provide more intellectually valuable contributions (Gillies, 2006). In view of Johnson and Johnson (1987), it is essential that students learn skills that were enable them to work cooperatively in groups. Students can't be expected to know how to work collaboratively unless they have been taught these skills.

Peer learning changed the theory of traditional methods of teaching, which have insufficient to teach so there is need to integrate it with peer learning which is student-centred approach used to change teaching learning environment for betterment of learners and their academic achievements (Kiran *et al.,* 2012).

Although peer learning has been implemented widely in Ethiopian Higher Education Institutes (EHEI), the program has not been effective to the expected extent along with the following points withdrawn after need assessment: perception of students towards this particularly approach, one-to-five peer learning, is not widely accepted as it is considered as, by many students, a means of increasing marks, is believed to be discouraging talented students and focus more of low achievers. Apart from this, many students and even teachers think it as just a political agenda which must be implemented with no compromising since once higher institutes are

commanded (top-to-down command). Due to this much of the evidences suggest that many instructors in the university still cling to the notion of expounding knowledge to their students rather than engaging them in discovering such knowledge through active learning. Thus, the objectives of this study were to examine the attitude of students and investigate the determinants that influence students' attitude toward one-to five- peer learning.

2. Research Methodology

2.1. Description of the study area

Wolaita Sodo University is one of the public Universities in Ethiopia established in 2007 with the aim of teaching and learning, conducting research and providing community services to the surroundings. It is located at 330 Km from Addis Ababa (capital city of Ethiopia) and 150km from Hawassa, the capital city of the Southern regional State. It is placed at 3km from Wolaita Sodo town, Wolaita Zone, South Nation Nationalities and Peoples Regional State.

2.2. Student population and selection of appropriate batch

The total number of 2nd year student was 1971 across 38 departments. Participant students in this research are 2nd year students, aged between18-20, who joined the University in 2013 and fall into the new modularized curriculum, for the first time in this University though some University in Ethiopia had started ahead of our University, Wolaita Sodo University. This batch is purposely selected as they were through one year experience of how the courses were delivered but were not very familiar with the new system of competency based curriculum which believes in students centered learning. And it is with the hope that they were our ideal population to give enough feedbacks for our request provided by a questionnaire. Before this batch were the third year students have been through the conventional approach (lecturing) of teaching with old curricula, lacking vital elements for the successful change of students' behavior and enhancing academic, social and psychological gains obtained from active learning.

2.3. Selection of the study area

Wolaita Sodo University was purposely selected for this study for the following reasons:

- Peer learning, in the University, was introduced just before two years
- The researchers are the staffs of the University and actions can easily be made to the irregularities in the implementation process
- Inadequate number of skilful instructors who are in charge of implementing this program.

2.4. Sample technique and Sample Size

Out of the total population of second year students of 1971, according to Gujarati (1995), 5-7 percent of the total population is an appropriate sample size as the population under the study is relatively large. Thus, the sample size consisting of 81 - students with the same levels of academic year (all 2nd year students) and environmental issues randomly selected from the major three educational steams.

The important consideration made during sampling technique was its size to represent the whole population. Students were randomly selected after Probability Proportionate to Sample Size (PPS) was done. All the faculties of the university were stratified into three categories of educational streams: Natural Science, Social Sciences and Professional Sciences. This is because of the fact that various educational streams seek various methods of course delivery. Finally, students from each stratum are selected using Probability Proportionate to Sample Size (PPS).

2.5. Methods of data collection

As data source for this study, primary and secondary data were used in this study. Primary data included interviews, questionnaires and Focus Group Discussion (FGD). Thus, qualitative and quantitative data were generated from the followings data collection tools.

Interview

The selected samples were interviewed individually by researchers. The interviews were semi-structured (Freeboby, 2003) to enable each student to elaborate on the each open ended and close ended questions. The interviews were supported by audio-visual Medias and fully transcribed by the researchers and checked for accuracy. The transcribed interviews were supposed to provide us an insight to identify recurring regularities in the data that we could use to identify meaningful categories.

Questionnaires

Questionnaires containing various items as per predetermined objectives were used to gather data. All respondents were expected to choose the answer(s) that reflects their own genuine views and stance on the statements that are administered in accordance with the Likert type of four scales: *Strongly disagree, Disagree, Agree, and strongly agree* (Effandi *et al*., 2010).

Focus Group Discussion (FGD)

A total of 4 FGD comprising 5-10 people from different categories (Academic Program Officer, department heads and deans, college level quality enhancement coordinators, teachers and student groups) were included as ***non-sample respondents*** to get the general picture of the situation. Three teachers from each education stream were involved for FGD. Interviews and FGD with concerned officer and student groups were also done as a method of getting qualitative data.

Key Informants

Key informants from various disciplines who have a good background in peer learning were interviewed. Whereas secondary data were obtained from annual reports of grades and other relevant written documents from registrar and departments.

2.6. Data analysis

Quantitative data were analyzed using percentage, frequency and inferential statistics like *Chi-square* (χ^2) test to compare the degree of determinants influencing the attitude of students. Qualitative data collected from FGD and interview were analyzed with words using conceptual generalization.

Definition of variables

The dependent variable in this study is attitude. And it was measured by five-point Liker Scale which was calculated in three levels: *low, medium and high*; whereas the independent factors assumed to have both direct and indirect effect on the attitude of students were stated below in the conceptual frame

Conceptual framework

The following is the conceptual framework developed for this study based literatures reviewed and personal observation.

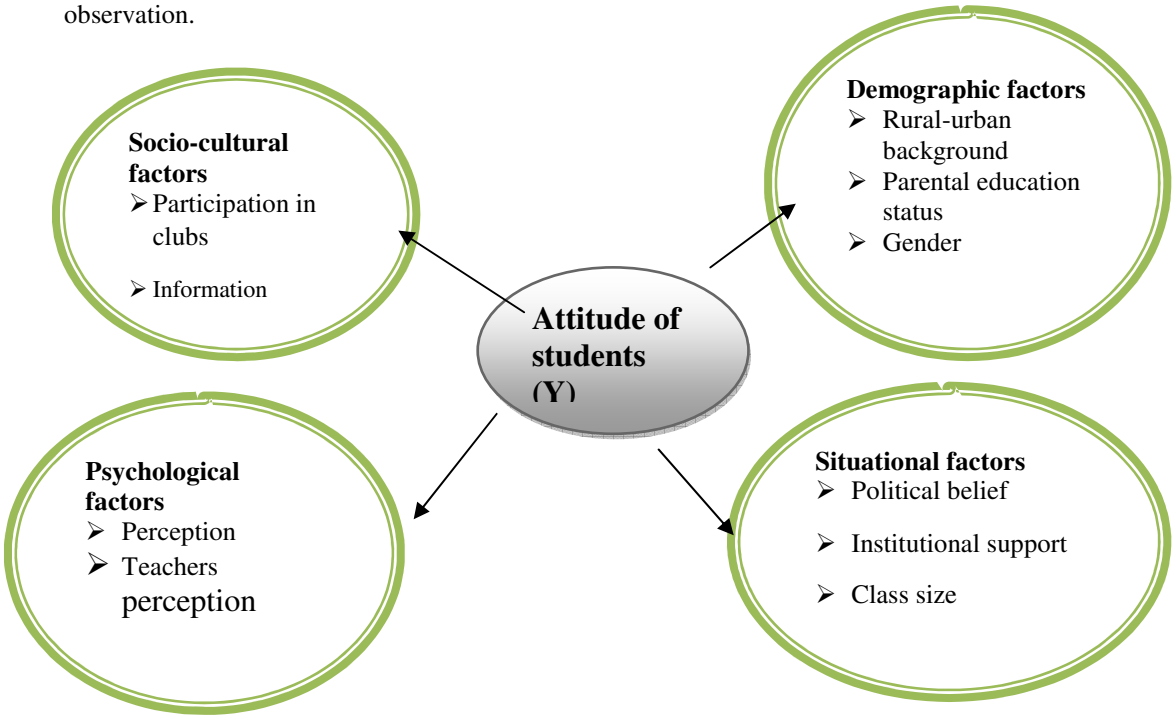

Fig. 1. The conceptual framework of the study

3. Result and Discussion

Peer learning is a successful teaching technique in which small groups, each with students of various levels of ability, use a multiple of learning activities to improve their understanding of a subject (Kiran *et al.,* 2012). The research was designed to explore one-to-five peer learning as effective teaching approach as a nationwide strategy to enhance the education quality in Higher Education Institutes of the country, Ethiopia. Majority of the students confessed that the one-to five peer learning is an effective approach.

Table 1. Summary of Chi-square test for categorical and dummy variables

SN	Determinant factors	Variables	χ^2	P-value
1	Demographic	Rural-Urban background	59.067	0.0001***
		Parental education status	26.398	0.009
		Gender	11.4	0.01
2	Situational	Political belief	35.446	0.001***
		Institutional support	16.189	0.063
		Class size	37.822	0.000***
3	Psychological	Students' perception	37.822	0.000***
		Teachers' perception	26.543	0.002***
4	Socio-cultural	Participation in various clubs	20.889	0.002***
		Information seeking behavior	20.889	0.002***

From the summarized table of Chi-square analysis, the results revealed that there was significant relationship between some of the variables under the determinant factor and one-to-five peer learning. Thus, among the variable that were important in their contribution for improved competency development of learners' through peer learning are discussed as follow:

Demographic factors: three of the variable under this particular factor were high significantly related with one-to-five peer learning as the Chi-square vales for urban-rural settings (9, 81) = 59.067, p-value =0.0001; parental education status = (12, 81) = 26.398, p-value= 0.009 and gender= (3, 81) = 11.4, p-value = 0.01.

Situational factors: the political belief and class size were significantly related with one -to -five peer leaning with their values (9, 81) = 35.446, p-value = 0.0001 and (9, 81) = 37.882, p-value = 0.0001, respectively. However, institutional support was not significantly related with one-to-five peer leaning at p-vale 0.05, which was (9, 81) = 16.189, p-value = 0.058.

Psychological factors: both students' and teachers' perception at p-vale 0.05 found to be significantly related with one-to-five-peer leaning (9, 81) = 26.543, p-value = 0.002 and (6, 81) = 20.889, p-value = 0.002, respectively.

Socio-cultural factors: students' participation in various clubs in campus and their information seeking behaviour were also found to be highly significantly related to peer learning as per their similar value of (6, 81) = 20.889, p-value = 0.002.

Table 2. Attitudes of students on one-to-five peer learning

	Strongly Agree	Agree	Disagree	Strongly disagree
Involvement in 1 to 5 peer learning	44(54.3%)	5(6.2%)	14(17.3%)	18(22.2%)
Group work helps me learn quicker	48(59.0%)	15(18.5%)	18(22.2%)	_
Like to work with my classmates	48(59.3%)	25(30.9%)	3(3.7%)	4(4.9%)
1 to 5 peer organization is just political command	6(7.4%)	18(22.2%)	22(27.2%)	35(43.2%)
1 to 5 peer organization is a scientific/logical approach	48(59.3%)	15(18.5%)	18(22.2%)	_
1 to 5 peer learning designed likely to support lower achiever students	48(59.3%)	15(18.5%)	18(22.2%)	_
1 to 5 peer learning likely supports female students	47(58.0%)	18(22.2%)	13(16.0%)	3(3.7%)
institutional support enhances demand towards 1 to 5 peer learning	35(43.2%)	19(23.5%)	12(14.8%)	15(18.5%)
The class size has no impact on successful 1-to-5 peer learning	10(12.3%)	10(12.3%)	29(35.8%)	32(39.5%)
Teachers have negative view towards 1 to 5 peer learning groups	22(27.2%)	12(12.8%)	20(24.7%)	27(33.3%)
Teachers always encourage students for 1 to 5 peer learning	26(32.1%)	15(18.5%)	31(38.3%)	9(11.1%)
The 1 to 5 peer learning approach is better than conventional learning approach	40(49.4%)	21(25.9%)	17(21.0%)	3(3.7%)
1 to5 peer learning benefited perform well and increasing mark	40(49.4%)	21(25.9%)	16(19.7%)	4(4.9%)

Table 2 displays the percentage of responses of students' attitude regarding one-to-five peer learning. As it can be seen above in the Table 2, students had positive attitudes regarding their willingness to involve in various clubs (60.2%) which encourages them to get connected to work in one-to-five peers and that majority of the

respondents(77.5%) like to work groups as it creates an opportunities for them to learn quicker. As Shimazoe and Aldrich (2010) also stated the several benefits on the use of peer-learning approaches for students: it promotes deep learning, helps to achieve better grades, learn social skills and civic values, students learn critical thinking skills and promotes personal growth and development of positive attitudes toward autonomous learning. According to focus group discussion, one-to-five peer learning helped students learn better and develop self-confidence and enhancing their socialization.

Group work is believed to be beneficial not only in a work environment, but also to have many positive results in academic settings (Davis, 1993). Past research has emphasized that group work allows students to explore a diversity of opinions, better retain learned information, and efficiently tackle projects too large to effectively handle on an individual basis (Gatfield, 1999). Other research suggests that in certain situations, group work is linked to an increase in students' confidence levels (Thomas, 2001).

It can also be understood from the Table 2 that it was not just political command, as they disagree (70.4%), that must be put into practice since it's once ordered. But, it was found to be timely and effective approach that has been known for helping both students and teachers in the entire teaching and learning process (77.8%). They also believed that peer learning play a great role in supporting lower achiever and improving their performance (77.8%), gives chance for female students get equipped with better understanding (80.2%), institutional supports create conducive environment for enhancing demands of peer learning (66.7%). They also indicated that class size has an impact on successful learning in one-to-five groups as majority disagree (75.3%) provided good class facilities and enough teachers to deliver courses.

Besides, the willingness of teachers regarding teaching in one-to-five peer group is not to the expectation (40%) though they encourage one-to-five peer learning approach in better percentage (50.6%) and this particular one-to-five peer learning approach is better than conventional learning approach (75.3%) such as lecturing. This idea was also reflected with similar interpretation with Weimer (2007), accordingly, when asked about the teaching methods teachers most commonly employ, 76% of professors reportedly use lecture as their "primary approach" to teaching. Even though many may dabble into the realm of peer learning as indicated also by Fink (2004), it is not common practice. Due to the expert nature of higher education, much evidence suggests that many university professors still cling to the notion of expounding knowledge to their students rather than engaging them in discovering such knowledge through active learning (Ediger, 2001).

Finally, students reported that they got ample benefits from 1 to5 peer learning (75.3%) that helped them perform well and increasing their marks. They strongly agreed that one-to-five peer learning created more incentives socially and psychologically. There have recently been a number of studies that have investigated the potential links between individual student characteristics and attitudes towards group work. For example, Gatfield (1999) sought to better understand the diversity of opinions regarding group work by investigating whether or not attitudes vary systematically with such characteristics as age, gender, and ethnicity. He found that ethnicity (Australian vs. international) seemed to be linked to significant differences in attitude, but that factors such as age and gender were not. In a similar spirit, Gardner & Korth (1998) sought to understand if attitudes toward group work varied according to individual learning style preference. They found that there were a large number of statistically significant differences; in other words, student attitudes about group work and preferred instructional methods seemed to vary systematically with their individual learning style.

Houldsworth & Mathews (2000) found that heterogeneous groups (those having a diversity in gender, age, and experience) performed more consistently than homogenous groups (those in which the members were more similar to one another). On a similar topic, but perhaps suggesting a different conclusion, Vanoffenbeek (2001) was not able to find a significant correlation between team performance and the degree of diversity of opinion (regarding the task to be completed) among group members. Based on the assumption that student attitude toward group work may be linked to the degree to which students feel that their efforts are effective and lead to desired results, the study below will investigate issues pertaining to the diversity of group composition.

4. Conclusions and Recommendations

The analysis of the data indicated that almost all of the participants of the study have perceived one-to-five peer learning positively though it varies between students. One-to-five peer learning helped students learn better and develop self-confidence. The analysis of the data disclosed that the extent of the practices of working with one-to-five peer groups in the University was found to be low and very few teachers reported that they were very reluctant to work with and they used lecture method frequently making the system teacher-

centered than student centered. The findings on ten factors indicated peer learning was affected in various ways. The result indicated students reported working in team helped them understand the subjects more clearly than individual learning making learning interesting and enhancing their socialization. The majority of the students asserted that students' that large class size was not the major problem in working in peer learning.
Based on findings of the study, the researchers recommend:

- ✓ Awareness trainings workshops should be provided for student on the role of one-to-five peer learning at the beginning of semester showing their duties to be fulfilled as some instructors have negative feeling towards engaging students in one-to-five peer for it requires more time and effort.
- ✓ There should also be a strong monitoring and evaluation systems not only on groups but also individual teacher's and student's performance at the end of every semester.
- ✓ Group forming should take into account teams whose member are diverse in ability levels rather than making the criteria only on cumulative GPA, CGPA so that student should shoulder their responsibility in effect without burdening clever students.
- ✓ This approach should be practiced by students at their lower grades so that
- ✓ Teachers should continuously monitor the work of not only the group but also the individual members and identify those students who try to become irresponsible from the task.
- ✓ Teachers should use one-to-five peer groups when employing various teaching methods side by side with individual learning approach.
- ✓ One-to-five peer learning is very appropriate toll to use for every subject and greater emphasis shall be given for numerical based courses such as like Statistics, Maths, and Economics as it provides ideas from different members and the concepts being easily clear

Acknowledgement
The authors thank Wolaita Sodo University for financial support considering the hotness of this particular research topic. We are very grateful to the officials from Directorates and concerned deans and academic program officers for their valuable ideas and encouragements while conducting this research. We also thank the student volunteers across all the disciplines that paid us their valuable time to discuss in teams and forward their genuine ideas.

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